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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,615	07/18/2000	Gary W. Sinde	6573-62441	9299
23643	7590	05/11/2005	EXAMINER	
BARNES & THORNBURG 11 SOUTH MERIDIAN INDIANAPOLIS, IN 46204			CHAMPAGNE, DONALD	
			ART UNIT	PAPER NUMBER
			3622	

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/618,615

Applicant(s)

SINDE, GARY W.

Examiner

Donald L. Champagne

Art Unit

3622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed on 18 January 2005 have been fully considered but they are not persuasive. The arguments are addressed at para. 6-7 and 10 below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-9, 11-14, 16-19, 21-24, 26-29, 31-34 and 36-39 are rejected under 35 U.S.C. 103(a) as being obvious over Nickolls et al. (US005251626A).
4. Nickolls et al. teaches (independent claims 1 and 21) a method and apparatus for detecting arrhythmias (abnormal heart rhythms) by electrocardiographically (ECG) monitoring the human electrical system, including classifying ECG waveforms (col. 5 lines 48-54), which reads on storing frequency spectra of known arrhythmias (col. 7 lines 3-8 and Figs. 7-9), comparing the input ECG spectra with the spectra of known arrhythmias, and determining from the comparison which of the frequency spectra of known arrhythmias is closest to the input ECG spectra (col. 11 lines 28-38 and Figs. 4 and 5, described at col. 12 line 11 to col. 13 line 65).¹
5. Nickolls et al. does not teach that said method and apparatus for identifying internally generated ECG noise is applicable for identifying "ingress noise", which is to say externally generated noise in communication networks. Because the two problems are mathematically analogous, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to apply the teachings of Nickolls et al. to the identification of ingress noise.
6. Applicant argues (pp. 8-11) that Nickolls et al. is non-analogous art to the present invention. That is correct, but It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with

¹ MedicineNet.com defines "QRS complex".

Art Unit: 3622

which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention (In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."); * Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993)>; and State Contracting & Eng'g Corp. v. Condotte America, Inc., 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003) (Where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved)<.

7. The instant and reference inventions differ only in whether or not the subject noise is generated externally (the instant invention) or internally (the reference invention). The problem is essentially mathematical, and one of ordinary skill in the art would readily see that identifying noise is identifying noise whatever its source. Nickolls et al. is more than "reasonably pertinent": it's teaching is central to the problem at hand.
8. Nickolls et al. also teaches analog, digital and hybrid analog-digital networks (col. 6 lines 22-23 and col. 11 lines 3-4) and optimization by use of a back propagation neural network (col. 5 lines 48-49).
9. Claims 5, 10, 15, 20, 25, 30, 35 and 40 are rejected under 35 U.S.C. 103(a) as being obvious over Nickolls et al. in view of Eberhart et al. (US006516309B1). Nickolls et al. does not teach a particle swarm optimizer. Eberhart et al. teaches a particle swarm optimizer (PSO, Abstract and col. 2 line 47 to col. 3 line 10). Because Eberhart et al. teaches that PSO can improve the efficiency of diagnostic neural networks (col. 1 line 64 to col. 2 line 7), it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the teachings of Eberhart et al. to those of Nickolls et al.
10. Applicant argues (pp. 11-15) that no motivation is given for combining the references. Applicant has failed to address the following motivation in para. 9: "Because Eberhart et al. teaches that PSO can improve the efficiency of diagnostic neural networks (col. 1 line 64 to

Art Unit: 3622

col. 2 line 7), it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the teachings of Eberhart et al. to those of Nickolls et al.”

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
12. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Champagne whose telephone number is 571-272-6717. The examiner can normally be reached from 6:30 AM to 5 PM ET, Monday to Thursday. The examiner can also be contacted by e-mail at donald.champagne@uspto.gov, and *informal* fax communications (i.e., communications not to be made of record) may be sent directly to the examiner at 571-273-6717.
14. The examiner's supervisor, Eric Stamber can be reached on 571-272-6724. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 3622

16. **AFTER FINAL PRACTICE** – Consistent with MPEP § 706.07(f) and 713.09, prosecution generally ends with the final rejection. Examiner will grant an interview after final only when applicant presents compelling evidence that “disposal or clarification for appeal may be accomplished with only nominal further consideration” (MPEP § 713.09). The burden is on applicant to demonstrate this requirement, preferably in no more than 25 words. Amendments are entered after final only when the amendments will clearly simplify issues, or put the case into condition for allowance, clearly and without additional search or more than nominal consideration.
17. Applicant may have after final arguments considered and amendments entered by filing an RCE.
18. **ABANDONMENT** – If examiner cannot by telephone verify applicant’s intent to continue prosecution, the application is subject to abandonment six months after mailing of the last Office action. The agent, attorney or applicant point of contact is responsible for assuring that the Office has their telephone number. Agents and attorneys may verify their registration information including telephone number at the Office’s web site, www.uspto.gov. At the top of the home page, click on Site Index. Then click on Agent & Attorney Roster in the alphabetic list, and search for your registration by your name or number.

DONALD L. CHAMPAGNE
PRIMARY EXAMINER

Donald L. Champagne
Primary Examiner
Art Unit 3622

7 May 2005